

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 12505301/A	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. <b>PCT/AU2004/001579</b>	International filing date ( <i>day/month/year</i> ) 17 November 2004	Priority date ( <i>day/month/year</i> ) 17 November 2003
International Patent Classification (IPC) or national classification and IPC  Int. Cl. <sup>7</sup> E04D 13/076		
Applicant  YLIAS, James		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of 3 sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising:	
a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of 11 sheets, as follows:	
<input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).	
<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.	
b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4. This report contains indications relating to the following items:	
<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand 20 April 2005	Date of completion of the report 14 July 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer  <b>VINCE BAGUSAUSKAS</b> Telephone No. (02) 6283 2110

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/001579

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
    - ☐ international search (under Rules 12.3 and 23.1 (b))
    - ☐ publication of the international application (under Rule 12.4)
    - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages **1, 5, 8, 9** as originally filed/furnished
    - pages\* received by this Authority on with the letter of
    - pages\* **2-4A, 6-7A** received by this Authority on **20 April 2005** with the letter of **20 April 2005**
  - ☒ the claims:
    - pages as originally filed/furnished
    - pages\* as amended (together with any statement) under Article 19
    - pages\* received by this Authority on with the letter of
    - pages\* **10-13** received by this Authority on **20 April 2005** with the letter of **20 April 2005**
  - ☒ the drawings:
    - pages **1-11** as originally filed/furnished
    - pages\* received by this Authority on with the letter of
    - pages\* received by this Authority on with the letter of
  - ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
  - ☒ the description, pages 2,4, 6,7
  - ☒ the claims, Nos.1-24
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/001579

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims 1-22	YES
	Claims	NO
Inventive step (IS)	Claims 1-22	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-22	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

The citations as identified in the International Search Report do not disclose a releasable locking means for a pivotal gutter system, to lock the gutter in the first draining position. Therefore claims 1, 9, 10 and 16 are novel and inventive over the prior art.

Furthermore, the citations do not disclose a tool for effecting the movement of a gutter system that also includes a lock operating means. Therefore claim 17 is novel and inventive over the prior art.

Since the other claims depend from the fore mentioned claims, they too must be novel and inventive.

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caused as a result of the build-up of leaves and other material in guttering system is that the houses or other buildings can become an extreme bushfire risk.

This therefore identifies a need to provide a system and method for being able to  
5 more effectively clean out the guttering systems of houses and other buildings, to avoid the build-up of leaves and other debris therein.

### Summary of the Invention

The present invention seeks to provide a solution to the aforementioned problem, or  
10 at least an alternative to the presently known methods and systems.

In one broad form, the present invention provides an apparatus for pivotally securing a gutter to a fascia, such that it may be pivotally moved between a first (draining) position and a second (cleaning) position, said apparatus including:

- 15 a bracket adapted to be attached to said fascia, having an arm outwardly extending therefrom;
- a connector adapted to be attached to said gutter;
- a hinge provided at a remote end of said arm, pivotally connecting said connector to said bracket; and,
- 20 a releasable locking means, to releasably lock said gutter in said first (draining) position.

Preferably, said arm of said bracket extends outwards from said fascia to a distance which is less than the width of said gutter.

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In one preferred form, said gutter includes an integrally formed connection means for pivotal attachment of said gutter to said hinge means on said arm.

In an alternative, but also preferred form, the apparatus includes a connection  
30 means which is adapted to be secured to said gutter and to said hinge means.

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Preferably, said connection means is shaped to substantially surround and thereby support said gutter therein.

Also preferably, the extremities of said connection means are formed with  
5 deformable tabs thereon, which are adapted to be deformed to at least partially surround lips formed on the edges of said gutter's walls.

Also preferably, said apparatus is shaped to complement the profile of the gutter to which it is attached.

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In a further broad form, the present invention provides a gutter adapted to be pivotally secured to a fascia such that it can be pivoted between a first (draining) position and a second (cleaning) position, said gutter including:

connector means associated with said gutter which is adapted to cooperate with a  
15 hinge, the hinge being provided at a remote end of an arm of a bracket, an outer end of which attached to a fascia,

whereby said gutter is releasably locked to said bracket in said first (draining) position.

20 Preferably, said arm of said bracket extends outwards from said fascia to a distance which is less than the width of said gutter.

In a further broad form, the present invention provides a guttering system which enables pivotal movement of a gutter component between a first (draining) position and a  
25 second (cleaning) position, said guttering system including:

a least one gutter component, including straight gutter components, corner gutter components and shaped gutter components;

connector means attached to each said gutter component;

at least one bracket, for attachment to a fascia, said bracket having an outwardly  
30 extending arm;

a hinge provided at a remote end of each said arm; and,

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a releasable locking means, to releasably lock each said gutter component in said first (draining) position.

Preferably, each said guttering component pivots substantially upwardly and  
5 outwardly from a pivotal axis which is displaced outwards from a fascia to which said guttering system is affixed.

Also preferably, each gutter component is adapted to pivotally move relative to compatible ancillary components including, but not limited to, corner gutter components,  
10 downpipe components, etc.

Preferably, a seal is provided between said respective gutter components and/or said compatible ancillary components.

15 In a further broad form, the present invention provides a method of cleaning a gutter, including the steps of:

unlocking a locking means of said gutter from a first (draining) position;  
pivoting said gutter to a second cleaning position, such that the gutter is disposed outwardly relative to its draining position;  
20 removing leaves from said gutter;  
returning said gutter to said draining position; and,  
relocking said locking means.

In a further broad form, the present invention provides a tool for effecting  
25 movement of a gutter system between a first (draining) position and a second (cleaning) position, including a tool having a shaped end adapted to engage with said gutter, said tool being provided on an elongate handle such that said movement may be effected from a substrate surface remote from said gutter, said tool further including lock operating means to lock and/or unlock a locking means.

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Preferably, the tool further includes lock operating means to lock and/or unlock a locking means.

#### **Brief Description of the Drawings**

5        The present invention will become more fully understood from the following detailed description of preferred but non-limiting embodiments thereof, described in connection with the accompanying drawing(s), wherein:

Fig. 1 illustrates an exploded isometric view of a preferred embodiment of the components of a guttering system in accordance with the present invention;

10       Fig. 2 illustrates, in Figs. 2(a) and 2(b) thereof, two elevational views of preferred arrangements of guttering system embodiments, which operate in a similar manner;

Fig. 3 illustrates, in Figs. 3(a), 3(b) and 3(c), plan views of how the gutter system of the present invention may alternatively be installed about a corner of a building;

15       Fig. 4 illustrates an elevational view of how the guttering system of the present invention may be connected into a downpipe;

Fig. 5 illustrates an elevational view of an alternatively preferred embodiment of the present invention;

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be pivotally rotated in the direction shown by arrows 13 in Fig. 2. That is, the gutter may be pivoted upwardly and outwardly between a first, or draining, position as shown in Fig. 2, and a second, or cleaning, position wherein the gutter is typically disposed between 90° and 180°, from the first or drainage position. Once in the second or cleaning position, the gutter may be easily hosed out, or brushed out with a broom or like cleaning implement, such that any and all leaves and other debris contained within the gutter 14 may be easily removed.

Fig. 1 also illustrates the provision of a swivel lock 15, which may be attached to the gutter bracket 3 and adapted to protrude through an elongate orifice 16, such that, when in the drainage position, the swivel lock may be rotated such that the gutter bracket 3 is prevented from moving apart from the fascia bracket 2. In alternative to the lock, the gutter may be constructed such that it would normally be biased to remain in the draining position. This could be achieved with a spring or other biasing means, if necessary, but otherwise it may remain naturally in this position without the provision of a spring or other biasing means.

It will be appreciated that the method of cleaning the gutter includes a few simple steps. Firstly, the swivel lock may be rotated, permitting the gutter to be outwardly pivotally moved in the direction shown by arrows 13 in Fig. 2 from the first or draining position to the second or cleaning position. The leaves may fall or be easily removed therefrom. Once cleaned, the gutter may be returned to the draining position, and the swivel lock 15 may be relocked. It will be appreciated by persons skilled in the art that, by provision of a lock, the gutter cannot be unintentionally tilted or opened. This not only ensures correct functioning of the guttering system, but is also a safety factor.

It will be understood by persons skilled in the art that, when a single piece of guttering is required to be positioned along one edge of a roof, a relatively simple embodiment shown in Fig. 2 may be formed. However, most houses tend to have either outwards or inwards corners. Fig. 3 shows how the present invention may be easily adapted to cater for outward corners. It will be appreciated by persons skilled in the art



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that inward corners may be likewise catered for. In Fig. 3, Fig. 3(a) shows how the ends of the gutter may be angled such that they slightly overlap and abut with an adjacent angled edge, such that the outward rotation 13 is still enabled. Fig. 3(b) illustrates an alternative whereby a fixed corner piece is provided into which straight edged gutters may rest and slightly overlap and may still be easily rotated as necessary between draining and cleaning positions. Fig. 3 illustrates yet an alternative, whereby the corners are extended partially along the edges of the roof line. In some situations, this arrangement may be preferable to that of Fig. 3(b). Downpipes and the like can easily be provided in the fixed corner pieces shown in Figs. 3(b) or 3(c), or, downpipes could be utilised as shown in Fig. 4, whereby the gutter may be molded such that a downpipe extension 17 fits within a downpipe 18, the downpipe extension still being able to be pivotally moved in the direction of arrow 13.

It will be appreciated that in most situations, an entirely waterproof seal need not be provided so, for example, the downpipe extension 17 can simply rest intermediate the walls of a downpipe 18. In some situations, it may be more desirable to have a more watertight seal, and it will be understood by persons skilled in the art that this can easily be achieved by the provision of an o-ring type seal or a silicon or rubber type seal between the components. Like seals may also be provided between the various guttering components and cornering components shown in Fig. 3.

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It will be appreciated by persons skilled in the art that, when a seal is provided between respective gutter components, and when the locking means is operated to lock the respective guttering components into position, that the locking means exerts pressure to the seal(s), to facilitate compression of the seal(s), to consequently give a water tight bond between the guttering components. It will also be appreciated by persons skilled in the art that a variety of types of materials may be utilised for the seal(s), but preferably, the seal may be formed of a soft dense waterproof foam rubber or tar impregnated foam.

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It will be appreciated by persons skilled in the art that the present invention therefore provides a guttering system which may be easily cleaned, such that bushfire hazard build-up of leaves is easily avoided. It will be appreciated that the guttering  
5 components of the present invention may be easily combined to form a guttering system, and that numerous variations and modifications are envisaged to the guttering system.

For example, whilst a specific arrangement of components is illustrated in Fig. 1 to illustrate a bracket, various other means for connection of brackets to the gutters, brackets  
10 to the fascias, may be embodied. For instance, the gutter bracket could be eliminated as a separate component and formed integrally with the gutter. Likewise, different arrangements of fascia brackets could be provided, whereby the bracket could outwardly extend from beneath the eaves as opposed to the fascia, or, where the brackets may be adjustable, such that the gutter apparatus may be lowered for easy access, for instance,

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## THE CLAIMS

1. An apparatus for pivotally securing a gutter to a fascia, such that it may be pivotally moved between a first (draining) position and a second (cleaning) position, said  
5 apparatus including:
  - a bracket adapted to be attached to said fascia, having an arm outwardly extending therefrom;
  - a connector adapted to be attached to said gutter;
  - a hinge provided at a remote end of said arm, pivotally connecting said connector  
10 to said bracket; and,
  - a releasable locking means, to releasably lock said gutter in said first (draining) position.
2. An apparatus as claimed in claim 1, wherein said arm of said bracket extends  
15 outwards from said fascia to a distance which is less than the width of said gutter.
3. An apparatus as claimed in claims 1 or 2, wherein said gutter includes an integrally formed connection means for pivotal attachment of said gutter to said hinge means on said  
20 arm.
4. An apparatus as claimed in claims 1 or 2, further including a connection means which is adapted to be secured to said gutter and to said hinge means.
5. An apparatus as claimed in claim 4, wherein said connection means is shaped to  
25 substantially surround and thereby support said gutter therein.
6. An apparatus as claimed in claim 5, wherein the extremities of said connection means are formed with deformable tabs thereon, which are adapted to be deformed to at least partially surround lips formed on the edges of said gutter's walls.  
30
7. An apparatus as claimed in any one of claims 1 to 6, wherein said apparatus is

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shaped to complement the profile of the gutter to which it is attached.

8. An apparatus as claimed in any one of claims 1 to 7, wherein said arm extends outwards from said connection means in a substantially L-shaped configuration.

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9. A gutter adapted to be pivotally secured to a fascia such that it can be pivoted between a first (draining) position and a second (cleaning) position, said gutter including:

connector means associated with said gutter which is adapted to cooperate with a hinge, the hinge being provided at a remote end of an arm of a bracket, an outer end of which attached to a fascia,

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whereby said gutter is releasably locked to said bracket in said first (draining) position.

10. A gutter as claimed in claim 9, wherein said arm of said bracket extends outwards from said fascia to a distance which is less than the width of said gutter.

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11. A guttering system which enables pivotal movement of a gutter component between a first (draining) position and a second (cleaning) position, said guttering system including:

20 a least one gutter component, including straight gutter components, corner gutter components and shaped gutter components;

connector means attached to each said gutter component;

at least one bracket, for attachment to a fascia, said bracket having an outwardly extending arm;

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a hinge provided at a remote end of each said arm; and,

a releasable locking means, to releasably lock each said gutter component in said first (draining) position.

12. A guttering system as claimed in claim 11, wherein each said gutter component pivots substantially upwardly and outwardly from a pivotal axis which is displaced outwards from a fascia to which said guttering system is affixed.

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13. A guttering system as claimed in claim 11, wherein said arm of said bracket extends outwards from said fascia to a distance which is less than the width of said gutter.

14. A guttering system as claimed in any one of claims 11 to 13, wherein the or each  
5 gutter component is adapted to pivotally move relative to compatible ancillary components including, but not limited to, corner gutter components, downpipe components, etc.

15. A guttering system as claimed in claim 14, wherein a seal is provided between said  
10 respective gutter components and/or said compatible ancillary components.

16. A method of cleaning a gutter, including the steps of:  
unlocking a locking means of said gutter from a first (draining) position;  
pivoting said gutter to a second cleaning position, such that the gutter is disposed  
outwardly relative to its draining position;  
15 removing leaves from said gutter;  
returning said gutter to said first (draining) position; and,  
relocking said locking means.

17. A tool for effecting movement of a gutter system between a first (draining) position  
20 and a second (cleaning) position, including a tool having a shaped end adapted to engage with said gutter, said tool being provided on an elongate handle such that said movement may be effected from a substrate surface remote from said gutter, said tool further including lock operating means to lock and/or unlock a locking means.

25 18. An apparatus for pivotally securing a gutter to a fascia, substantially as herein described with reference to the accompanying drawings.

19. A gutter to be pivotally secured to a fascia, substantially as herein described with  
reference to the accompanying drawings.

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20. A guttering system, substantially as herein described with reference to the accompanying drawings.
21. A tool for pivoting a guttering apparatus, substantially as herein described with  
5 reference to the accompany drawings.
22. A method for cleaning a gutter, substantially as herein described.